

David John CHATTING, *et al.*
Serial No. 10/556,459
October 14, 2008

REMARKS/ARGUMENTS

Reconsideration of this application is respectfully requested.

The Examiner's attention is drawn to the amendment and remarks filed June 10, 2008, in related application Serial No. 10/556,455 (now being examined by Examiner Eric Rush in Art Unit 2624).

In response to the rejection of claim 7 under 35 U.S.C. §101, this claim has been amended as suggested by the Examiner so as to incorporate the substance of claim 8 (which has now been cancelled without prejudice or disclaimer).

Accordingly, all formality-based issues are now believed to have been overcome in the applicants' favor.

The rejection of claims 1-3, 5-11 and 13-14 under 35 U.S.C. §102 as allegedly anticipated by Massarsky '628 is respectfully traversed.

As above amended, independent claims 1 and 9 now more clearly require each feature area of the input image to (a) encompass a predetermined individually recognizable component of the input image (e.g., mouth, right eye, left eye, chin, etc.) and (b) to be independently caricatured so that each transformed feature area includes an independently transformed version of its respectively corresponding component. As explained in the specification, such treatment of individual image features separately with

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independent caricaturing at a feature-based level provides for less distortion in the resulting caricatured composite image.

By contrast, Massarsky caricatures the entirety of the image as a single caricaturing process. While it is true that Massarsky divides the entire input image space into sub-regions, each of these sub-regions is triangular in shape and is contiguous to other triangular sub-regions (e.g., the entirety of the image space is occupied by contiguous triangular sub-regions). None of the sub-regions appears to encompass a predetermined individually recognizable component of the input image. Indeed, the contiguous triangles purposefully cut through such image components (e.g., see Fig. 4).

Still further, Massarsky achieves caricaturization by changing the positions of some (or all) of the triangle vertices in the image space and then transforming everything within each of the contiguous triangles in a unitary integrated caricaturing process. Inevitably, because changing the size, shape or orientation of any one of the contiguous triangles will necessarily cause a related effect in one or more adjacent contiguous triangles, the Massarsky caricaturing transformation of any given sub-area cannot be performed independently of the caricaturing transformation caused in at least one adjacent contiguous sub-area.

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In fact, the Massarsky teaching is directly contrary to the applicants' approach where caricaturing transformations are applied independently to each of the identified feature areas. In short, applicants have described and claimed a feature-by-feature caricaturing technique, while Massarsky teaches an inter-dependent caricaturing transformation of contiguous triangular sub-areas which encompass the entirety of the input image – no one of the triangular sub-areas being configured or positioned so as to encompass a predetermined individually recognizable component of the input image.

Given such fundamental distinctions with respect to independent claims 1 and 9, it is not believed necessary at this time to detail additional deficiencies of this reference with respect to other aspects of the rejected claims. Suffice it to note that, as a matter of law, it is impossible for a reference to anticipate any claim unless it teaches each and every feature of that claim.

However, for the record (e.g., *vis-à-vis* related application Serial No. 10/556,455), it is noted that Massarsky does not even use a caricature level parameter (defining the amount of caricaturing to be applied) as input to the process. Instead, it appears that a skilled person decides how to rearrange the triangle vertices. Although differing amounts of caricaturing might result, there is no such input parameter determined and then input to the process.

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The rejection of claims 4 and 12 under 35 U.S.C. §103 as allegedly being made “obvious” based on Massarsky taken in view of Kwak ‘595 is also respectfully traversed.

While Kwak does appear to separately analyze identifiable sub-parts of an input image (e.g., corresponding to face elements such as eyes, nose, mouth, etc.), Kwak then appears to derive a constituent output image component from a database rather than by a caricaturing data processing technique – e.g., by independently applying respectively associated caricaturing transformations to points of the image component located within an identified feature area.

Claim 4 depends from claim 3 and requires the identifying step of claim 3 to cause calculation of a caricatured image feature point based on a ratio of (a) the dimensions of the predetermined feature area within the input image (or the respectively corresponding feature area within the “other” image) to (b) the respectively corresponding feature in the reference image.

The Examiner alleges such to be found in paragraph 24 of Kwak. However, while paragraph 24 discusses analyzing the input image so as to calculate various input intra-image ratios (which are later applied to the face shape of the caricatured image), Kwak then teaches that such intra-image ratios are to be used only in selection of a desired database model for the caricatured eyes, nose, mouth, etc. (i.e., to be extracted from the

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database in consideration of the calculated input intra-image ratios and sizes). That is, Kwak does not teach the calculation of a ratio between (a) a feature area in a reference image and (b) a corresponding feature area of the input image (or of the corresponding feature area within the "other" image of parent claim 3).

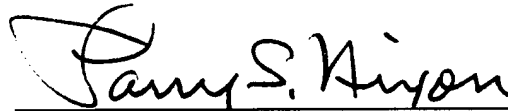
Similar distinctions are present for rejected claim 12.

Accordingly, this entire application is now believed to be in allowable condition, and a formal notice to that effect is earnestly solicited.

Respectfully submitted,

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